

### **REMARKS/ARGUMENTS**

Upon entry of this amendment, claims 1 and 5 will be amended, whereby claims 1-7 will remain pending, with claim 1 being the sole independent claim.

The claims have been amended to correct errors of a typographical nature that occurred when presenting previous amendments to the claims.

Reconsideration and allowance of the application are respectfully requested.

#### **Discussion Of Telephone Interview**

Applicants express appreciation for the courtesies extended by Examiner Harris during a June 18, 2007 telephone conversation with Applicants' representative Arnold Turk.

During this telephone conversation, Applicants' representative requested the Examiner's indication as to whether the Examiner has considered the Second Supplemental Preliminary Amendment filed January 10, 2006, because the Office Action does not reference this amendment of the claims. The Examiner indicated that the amendment has been considered.

#### **Incorrect Form PTO-892**

Applicants note that an incorrect Form PTO-892 is attached to the Office Action. There are two forms PTO-892 attached with one being for the present application, but the other being for a different application. Applicants therefore request that the incorrect Form PTO-892 be removed from the file.

### **Information Disclosure Statements**

Applicants express appreciation for the inclusion with the Office Action of initialed copies of Forms PTO-1449 whereby the Examiner's consideration of the Information Disclosure Statement and Supplemental Information Disclosure Statement has been made of record.

### **Foreign Priority**

Applicants note that the Office Action acknowledges the claim of foreign priority, but has only checked "all" without checking what was received. Applicants therefore request that the Examiner indicate that the certified copy has been received in this national stage application in the next communication from the Patent and Trademark Office.

### **Response To Rejection Under Double Patenting**

Claims 1-7 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-13 and 1-7 of copending Application Nos. 10/353,072 and 11/062,738, respectively, because the rejections assert that the applications disclose fine spinel ferromagnetic particles having compositions of cobalt and nickel.

Initially, Applicants respectfully submit that these ground of rejection are without appropriate basis. For example, the rejections do not address the claimed subject matter, but point to the disclosure of the applications, and assert that both applications disclose fine spinel ferromagnetic particles having compositions of cobalt and nickel. The

rejections do not state what is recited in the claims of the present application, do not point out how the claims of the present application differ from the claims of the other applications, and do not address any modifications to arrive at Applicants' claimed subject matter.

Moreover, Applicants note that the rejections refer to U.S. Patent Application No. 10/353,072. However, so that the record is clear, Applicants note that this application published as US 2003/0183800 A1 on October 2, 2003 and matured into U.S. Patent No. 6,764,608 B2 on July 20, 2004. Applicants are listing these documents on a Form PTO-1449 attached hereto so that the record is complete as to the Examiner's consideration of these documents.

A fee should not be required for updating the status of the application cited in the rejection. However, if any fee is required, authorization is hereby provided to charge any required fee for considering the U.S. patent documents to Deposit Account No. 19-0089.

While the rejections are without appropriate basis, in an attempt to advance prosecution of the application, Applicants note the following.

Applicants' claimed subject matter is directed to spinel ferrimagnetic particles, a composition formula of which when prepared is  $(\text{CoO})_{0.5-x}(\text{NiO})_{0.5-y}(\text{MO})_{x+y} \cdot n/2(\text{Fe}_2\text{O}_3)$  (M is a bivalent metal except Co and Ni), where,

a value of n (molar ratio) =  $\text{Fe}/(\text{Co} + \text{Ni} + \text{M})$  is  $2.0 < n < 3.0$ , which is larger than stoichiometric amount ( $n = 2$ ) of a spinel ferrite and less than that of 1.5 times, and, values of said x, y satisfy  $0 < x < 0.5$ ,  $0 \leq y < 0.5$ ,  $0 < x+y < 0.5$ , wherein, also, superparamagnetic fine particles contained in said spinel ferrimagnetic particles produced by coprecipitation is 5 % by mass or less.

The claimed subject matter is characterized in that it holds the superparamagnetic component, which adversely affects on magnetic recording properties, 5% by mass or less by including MO, with the claimed subject matter including  $(\text{CoO})_{0.5-x}(\text{NiO})_{0.5-y}(\text{MO})_{x+y} \cdot n/2(\text{Fe}_2\text{O}_3)$  (M is a bivalent metal except Co and Ni).

In contrast, claims 1-13 of Application No. 10/353,072, which issued as U.S. Patent No. 6,764,608 on July 20, 2004, do not contain  $(\text{MO})_{x+y}$ . Claims 1-9, 12 and 13 recite  $(\text{CoO})_x(\text{NiO})_y \cdot n/2\text{Fe}_2\text{O}_3$  and  $n=\text{Fe}/(\text{Co}+\text{Ni})$ ; claim 10 recites “comprising iron, cobalt and nickel”; and claim 11 recites “containing  $\text{Fe}^{3+}$ ,  $\text{Co}^{2+}$  and  $\text{Ni}^{2+}$  with each other”; and claim 13.

Accordingly, the rejection is without appropriate basis and should be withdrawn.

Regarding Application No. 11/062,738, the composition formula of the spinel ferrimagnetic particles according to Application No. 11/062,738 is  $(\text{MO})_n/2(\text{Fe}_2\text{O}_3)$  wherein M is a divalent metal; and n is a molar ratio of Fe to M,  $n=\text{Fe}/\text{M}$ , which is from more than 2.05 to less than 2.5,  $2.05 < n < 2.5$ , containing a superparamagnetic component in an amount of not more than 2% by mass, and having an average particle diameter of 5 to 30 nm, said spinel-type ferrimagnetic particles being respectively coated on surface thereof with a hydroxide of at least one metal selected from the group consisting of Si, Al, P and Zn in an amount of not more than 10% by mass, calculated as the metal. Even the surfaces are coated with a hydroxide, the diameters of those particles are less 30 nm in average, and the particles can exhibit an excellent dispersibility and chemical stability irrespective of fine particles. Spinel ferrimagnetic particles of Application No. 11/062,738 are characterized as including an excellent weather resistance and a high reliability.

The claimed subject matter may components in common with the claims of Application No. 11/062,738. However, the ratio of Fe is greater in Applicants' claims, and Applicants' claims are directed to spinel ferrimagnetic particles that contain a small ratio of superparamagnetic fine particles while maintaining high coercivity. In contrast, the claims in Application No. 11/062,738 are directed to the improvement of high reliability for chemical stability, i.e., weather resistance. Therefore, the purposes of those inventions and the technical means for achieving them are distinct from each other, and there is no indication as to why one having ordinary skill in the art would arrive at the subject matter recited in Applicants' claims from the claims in Application No. 11/062,738.

Accordingly, the obviousness-type double patenting rejections should be withdrawn.

#### **Response To Rejection Under 35 U.S.C. 103(a)**

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hatatani et al. (hereinafter "Hatatani"), U.S. Patent No. 5,648,014, and further in view of Yamamoto et al. (hereinafter "Yamamoto"), IEEE Transactions on Magnetics, Vol. 38, No. 5, September 2002.

Hatatani discloses "Acicular magnetic iron oxide particles comprising as core particles acicular magnetite particles; a magnetite coating which is formed on the surfaces of said acicular magnetite particles by epitaxial growth and which has maghemite at least in a part of the surface of said magnetite coating, the  $\text{Fe}^{2+}/\text{Fe}$  percentage in said magnetite and maghemite coating being 20 to 30% by weight; and a cobalt-containing oxide layer

which is formed on said magnetite coating". Hatatani is directed to a multilayer structure and specifically structures his particles with respect thereto.

Yamamoto is directed to the investigation of the effect of NiO substitution on the magnetic and physical properties of Co ferrite prepared by the chemical coprecipitation method without postannealing. Yamamoto discloses "by adjusting the molar ratio the magnetic properties and crystalline structure can be improved". However, Yamamoto only suggests adjusting the molar ratio that is suitable for forming the composition  $(\text{CoO})_{1-x}(\text{NiO})_x \cdot n/2(\text{Fe}_2\text{O}_3)$ .

One having ordinary skill in the art would not have been motivated to combine the disclosures of Hatatani and Yamamoto in view of their diverse disclosures. However, in any event even if the disclosures were combined, any proper combination of Hatatani and Yamamoto would not arrive at Applicants' disclosed and claimed subject matter which is directed to spinel ferrimagnetic particles, a composition formula of which when prepared is  $(\text{CoO})_{0.5-x}(\text{NiO})_{0.5-y}(\text{MO})_{x+y} \cdot n/2(\text{Fe}_2\text{O}_3)$  (M is a bivalent metal except Co and Ni) let alone such a particle that does not require the presence of multiple layers as disclosed in Hatatani.

Accordingly, the rejections of record should be withdrawn with the early mailing of the Notices of Allowance and Allowability.


CONCLUSION

In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections of record, and allow each of the pending claims.

Applicants therefore respectfully request that an early indication of allowance of the application be indicated by the mailing of the Notices of Allowance and Allowability.

Should the Examiner have any questions regarding this application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,  
Hiroshi YAMAMOTO et al.

  
Bruce H. Bernstein  
Reg. No. 29,027

November 19, 2007  
GREENBLUM & BERNSTEIN, P.L.C.  
1950 Roland Clarke Place  
Reston, VA 20191  
(703) 716-1191

Arnold Turk  
Reg. No. 33094